

2/2 008

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0137295

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A PD CATALYST WAS PREPD. BY IMPREGNATION OF A SPECIAL CLAY WITH AN ALC. SOLN. OF PDCL SUB2. THE CLAY WAS FINELY GROUND, DRIED, AND CALCINED AT 600DEGREES FOR 5 HR. REDN. OF CATALYST WAS DONE AS FOLLOWS: DRYING FOR 1 HR AT 105DEGREES, GRADUAL INCREASE OF TEMP. FOR 1 HR TO 230DEGREES, AND REDN. AT 230DEGREES FOR 35 MIN. SOYBEAN OIL WAS HYDROGENATED TO AN I NO. OF 65-80 AT 180-240DEGREES. THE MAX. RATE OF HYDROGENATION WAS OBTAINED WITH 0.1PERCENT PD ON CLAY. ANAL. OF THE HYDROGENATED PRODUCT SHOWED A GOOD SELECTIVITY. FACILITY: KHABAROVSK. PEDAGOG. INST., KHABAROVSK, USSR.

UNCLASSIFIED

USSR

UDC 595.425(574.4)

SHLUGER, Ye. G., and BEL'SKAYA, G. S., Institute of Zoology, Academy of Sciences, Turkmen SSR

"New Finds of Trombiculid Mites (Acariformes, Trombiculidae) on Birds of Turkmenia (Report I)"

Ashkhabad, Izvestiya Akademii Nauk Turkmenskoy SSR, Seriya Biologicheskikh Nauk, No 1, 1972, pp 65-70

Abstract: New species of Trombiculid mites are described, and species found for the first time on birds of Turkmenia (the mountains and foothills of central and western Kopet Dag, Malyy Balkhan, Badkyz and the route of the Karakum Canal from Kerki to Izgant) in the period from 1962 and 1968 are redescribed. *Neoschoengastia lucida* Schluger et Belskaja, *N. aurata* Schluger et Belskaja and *Neotrombicula turkmenica* Schluger et Belskaja, collected from birds of Turkmenia, are new species for science. *Hypogastia meshedensis* Vercammen-Grandjean et al., and *Ornithogastri merops* Vercammen-Grandjean et al., are new species for the fauna of the USSR. *Neotrombicula rosickyi* Daniel et Zanina is redescribed in Turkmenia. Birds are their new hosts.

1/1

- 39 -

Conferences

USSR

UDC 621.73:061.3

LERNER, P. S., PENCHUKOV, V. M., ROMANOV, Ye. S., and SHLUMPER, V. B.

"Scientific and Technical Conference on Some Problems of the Theory and Practice of Metalworking by Pressure"

Moscow, Kuznechno-shtampovoechnoye Proizvodstvo, No 7, Jul 70, pp 48-49

Abstract: The Scientific and Technical Conference on Problems of the Theory and Practice of Metalworking by Pressure was sponsored by the Tula Polytechnical Institute jointly with the Tula Chapter of the Scientific and Technical Society of the Machinery Industry. The conference was attended by representatives of 16 institutions of higher learning of Moscow, Leningrad, Izhevsk, Rostov-on-Don, Tomsk, Chelyabinsk, and other cities, 10 scientific research institutes, and by representatives of plants in Leningrad, Moscow, Nikolayev, Ul'yanovsk, Riga, and elsewhere. The 54 reports presented at the conference highlighted individual problems of the theory of plastic working of metals, research on existing technology and the development and introduction of new technology in production. The conference was conducted in plenary sessions and sections on sheet metal stamping and closed impression die forging. Among the topics discussed were the following: effect of anisotropy on the process of plastic deformation (S. P. Yakovlev, V. F. Kuzin, V. M. Lyalin), development of rational geometric

1/3

USSR

LERNER, P. S., et al, Kuznechno-shtampovochnoye Proizvodstvo, No 7, Jul 70, pp 48-49

parameters of tools to ensure uniform deformation (S. A. Valiyev, V. N. Chudin), inhomogeneity of the buildup of deformation in nonstationary plastic flow (I. P. Renne, N. I. Deplov, E. A. Boyko), plastic flow in axisymmetric deformation (S. P. Yakovlev, V. M. Lyalin), rational technology of reverse and rotational extrusion (M. N. Tsypina, L. G. Yudin, Yu. M. Filigarov), drawing and reducing the wall thickness (I. P. Renne, V. F. Zimin, P. S. Lerner); test data on drawing box-type parts of great width (V. P. Romanovskiy); problems of failure and reserve of plasticity of materials (V. L. Kolmogorov, V. I. Ural'skiy, I. A. Sokolov, V. S. Plakhotin); study of deformation inhomogeneity (G. B. Bol', V. A. Ogorodnikov, F. Kh. Tomilov); the stress-strain state in deep drawing of cylindrical bodies (I. A. Sokolov, S. O. Kukutsa, V. I. Ural'skiy); selecting diagrams of forming cylindrical hollow billets by rotary rolls of a given profile (N. V. Potekushin, L. I. Artmaladze, Ye. M. Ravinskaya, A. N. Terent'yev); theoretical and experimental study of combined reverse deep drawing of aluminum parts with reducing wall thickness (A. A. Bebris, D. N. Gol'dberg); changes in parameters of drawing under liquid friction conditions (A. E. Chuzov, V. I. Kabanovskiy, A. A. Churakova); experimental extrusion of billets and its

USSR

LERNER, P. S., et al, Kuznechno-shtampovochnoye Proizvodstvo, No 7, Jul 70,
pp 48-49

combination with upsetting, sizing, etc. (V. I. Zaydman); and the effect of
superplasticity and its potential use in the technology of metalworking by
pressure (Ya. M. Okhrimenko, O. M. Smirnov).

3/3

USSR

UDC: 658.562.533

LEVIN, G. I., ~~SHLYAGA, G. I.~~, BARSUKOV, G. Ye.

"A Device for Automatic Monitoring of Operations"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 9, Mar 72, Author's Certificate No 331393, Division G, filed 22 Dec 69, published 7 Mar 72, p 154

Translation: This Author's Certificate introduces: 1. A device for automatic monitoring of operations given by a time schedule. The device contains a display unit and a control unit which is connected to the inputs of a decoder, elapsed time indicator, printout module, and attached printer, and also to the controlling input of a shift register. As a distinguishing feature of the patent, the visibility and efficacy of monitoring are improved by adding a time interval distributor, a module for determining deviations, a module for visualizing the schedule to be monitored, and a module for output of deviations. The inputs of the module for determining deviations are connected to the outputs of the module for visualizing the schedule to be monitored, the decoder, and the time interval distributor. The outputs of the module for determining deviations are connected through the module

1/2

USSR

LEVIN, G. I. et al., USSR Author's Certificate No 331393

for output of deviations to one of the inputs of the indicator and of the printout module. The controlling input of the module for output of deviations is connected to the controlling output of the time interval distributor whose second output is connected to the controlling input of the display unit, while the input of the time interval distributor is connected to the output of the elapsed time indicator. 2. A modification of this device distinguished by the fact that the module for determining deviations contains coincidence circuits which are connected by their two inputs in the diagonal of a matrix whose vertical lines are connected to the outputs of the corresponding delay elements, while the horizontal lines are connected through NOT gates to the corresponding memory elements. The outputs of the delay elements are connected through an OR logic gate to the set terminals of the memory elements.

2/2

1/5 014 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--SHORT HANDBOOK ON STEAM TURBINE PLANTS -U-
AUTHOR--SHLYAKHIN, P.N., BERSHADSKIY, M.L.
COUNTRY OF INFO--USSR
SOURCE--SHORT HANDBOOK ON STEAM TURBINE PLANTS (KRATKIY SPRAVOCHNIK PO
PAROTURBINNYM USTANOVKAM) 2ND ED., MOSCOW, ENERGIYA, 1970, 214 PP
DATE PUBLISHED-----70
SUBJECT AREAS--ENERGY CONVERSION (NON-PROPULSIVE)
TOPIC TAGS--STEAM TURBINE, ELECTRIC GENERATOR, VAPOR CONDENSATION,
THERMOELECTRIC POWER PLANT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1987/0025 STEP NO--UR/0000/70/000/000/0001/0214
CIRC ACCESSION NO--AM0103713
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AM0103713

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TABLE OF CONTENTS: PREFACE TO THE SECOND EDITION 3. INTRODUCTION 4. CHAPTER I STEAM TURBINES 7. II EXPERIMENTAL CHARACTERISTICS OF TURBINES 102. III CONDENSATION DEVICES 105. IV TURBOGENERATORS 150. V DEAERATORS, REGENERATIVE HEATERS, EVAPORATIVE AND STEAM CONVERTING DEVICES 165. VI OIL SUPPLY OF TURBO UNIT 179. VII TURBINE MAINTENANCE. ECONOMIC INDICATORS OF WORK OF TURBINE PLANT AND TURBINE WORKS 192. VIII SOME INFORMATION OF VARIABLE OPERATING CONDITIONS OF TURBINE 200. APPENDIX 205. LITERATURE 211. THE HANDBOOK CONTAINS TECHNICAL DATA ON STEAM TURBINES, ELECTRIC GENERATORS, CONDENSATION DEVICES AND AUXILIARY EQUIPMENT OF STEAM TURBINE PLANTS OF THERMOELECTRIC POWER STATIONS. THE HANDBOOK WAS INTENDED FOR HEAT ENGINEERS, OCCUPIED WITH THE DESIGN AND OPERATION OF TURBINE PLANTS OF THERMOELECTRIC POWER STATIONS, AND FOR STUDENTS OF POWER SPECIALTIES.

UNCLASSIFIED

USSR

UDC 616.981.51-036.22(478.9)"1946-1970"

SHLYAKHOV, E. N., and PRISAKAR', V. I., Kishinev Medical Institute, Kishinev

"Epidemiological Characteristics of Anthrax in the Moldavian SSR Over a Period of 25 Years (1946-1970)"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 8, Aug 73, pp 15-18

Abstract: As a result of planned veterinary, sanitary, and medical measures that were taken in 1946-1970, the incidence of anthrax among humans and animals decreased in the Moldavian SSR. The incidence among humans per 100,000 of the population was 5.4-20.7, 1.6-4.5, and 0.18-0.39 in 1946-50, 1951-58, and 1959-70, respectively. The frequency of the occurrence of the disease among humans corresponded to the intensity of epizootics among farm animals and was at a maximum (71.2% of the total number of infections) in the summer. Human infection was due in 25.2% of cases to contact with diseased animals and in 30% of cases to incorrect handling of the carcasses of animals that had been diseased. The infection was most frequent (65% of cases in 1946-70) among kolkhoz workers, including those having privately owned cattle. It decreased among kolkhoz workers (from 71.5 to 52.5% of total cases) and workers in the leather and fur

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USSR

SHLYAKHOV, E. N., and PRISAKAR', V. I., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 8, Aug 73, pp 15-18

industries, while increasing among animal breeders and veterinarians. The incidence among humans and animals was highest in the north-moldavian forest-steppe zone with typical, podzolized, and leached chernozem soils and grey forest soils; lower in the central zone of Moldavia with predominant grey and brown forest soils that are more acid than chernozem; and lowest in the southern zone with ordinary, calcareous, dusty, and southern chernozems. The incidence had a tendency to increase in years with a dry and hot summer.

2/2

- 20 -

USSR

UDC 616.981.51-036.21-084.4(478.9

SHLYAKHOV, E. N., and PRISAKAN', V. I., Kishinev Medical Institute

"Anthrax Prophylaxis in Moldavia"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1973, pp 121-125

Abstract: Prior to Soviet rule Moldavia had one of the highest incidences of anthrax. With the advent of Soviet rule definitive measures were taken to eradicate anthrax as far as possible. They included soil and carcass disinfection and active immunization of cattle, as well as hospitalization and isolation of patients, and treatment with antibiotics and antisera. As a result of such intense and diligent efforts the incidence of anthrax decreased 25-fold from the 1945-1950 period to the 1959-1970 period.

1/1

- 21 -

Diagnosis

USSR

UDC 616.981.51-078.73

SHLYAKHOV, E. N., SHVARTS, S. A., GRUZ, Ye. V., and KATKHANOVA, T. M., Moldavian
Institute of Hygiene and Epidemiology

"Immuno-Allergic Diagnosis of Anthrax in Man with Anthraxin"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, Vol 47, No 6, Jun 70,
pp 79-83

Abstract: Data from 1,152 cases were evaluated in an effort to ascertain the rate of development and duration of skin-allergic reactions, the effectiveness of anthraxin tests in comparison with bacteriological studies, and the problem of whether the indices of anthraxin tests depend on the test periods or the beginning of a specific cure. It was found that with the anthraxin skin test, a diagnosis could be reliably confirmed 2.5 times more effectively than by the bacteriological method. Anthraxin skin tests are the only method of retrospective diagnosis of anthrax. In 93% to 73% of cases, it was possible to establish anthrax many years, or sometimes even decades, after its occurrence.

1/1

1/2 012 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--IMMUNO ALLERGIC DIAGNOSIS OF ANTHRAX IN MAN WITH THE AID OF
ANTHRAXIN -U-
AUTHOR-(04)-SHLYAKHOV, E.N., SHVARTS, S.A., GRUZ, YE.V., KATKHANOVA, T.M.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 6,
PP 79-83
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ANTHRAX, MAN, SKIN TEST, DIAGNOSTIC MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/0409

STEP NO--UR/0016/70/000/006/0079/0083

CIRC ACCESSION NO--AP0126162

UNCLASSIFIED

2/2 012

CIRC ACCESSION NO--AP0126162

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) CP-0-

ABSTRACT. MANY YEAR EXPERIENCE IN THE APPLICATION OF ANTHRAXIN FOR THE DIAGNOSIS OF ANTHRAX IN THE SOVIET UNION AND ABROAD DEMONSTRATED ITS HIGH SPECIFICITY AND EFFICACY. WITH THE AID OF ANTHRAXIN SKIN TEST ANTHRAX DIAGNOSIS WAS RELIABLY CONFIRMED TWO AND A HALF TIMES MORE FREQUENTLY (IN 92PERCENT OF THE CASES) THAN BY BACTERIOLOGICAL EXAMINATION. AT PRESENT SKIN TEST WITH ANTHRAXIN IS THE ONLY METHOD WHICH PERMITS TO ESTABLISH RETROSPECTIVE DIAGNOSIS OF ANTHRAX MANY YEARS AFTER AN ATTACK OF THIS DISEASE (FROM 93 TO 73PERCENT OF THE CASES). EARLY SPECIFIC TREATMENT OF ANTHRAX REDUCED THE INDICES OF DAIGNOSTIC TESTS WITH ANTHRAXIN A LITTLE. FACILITY:

UNCLASSIFIED

Publications

USSR

UDC 355.77

YEGOROV, P. T., SHLYAKHOV, I. A., and ALABIN, N. I.,

Grazhdanskaya Oborona (Civil Defense), Moscow "Vysshaya Shkola", 1970, 544 pp

Translation: In the textbook information is given on the tasks, measures, and organization of civil defense, the effect of weapons of mass destruction on humans, buildings, and structures, means of protecting the population from weapons of mass destruction, the planning of civil defense, fulfillment of emergency restoration work, and the organization of public training on the problems of civil defense.

The book is intended for students of higher educational institutions.

Foreword: Taking into account the aggressive policy carried out by imperialist states and the arms race, the Communist Party and the Soviet Government show unflagging concern for strengthening the nations defensive might and improving civil defense.

Civil defense is a system of statewide defense measures aimed at protection of the population, creation of the conditions necessary for stable operation of national economic projects in time of war, and, in case of the use of weapons of mass destruction by the enemy, at the carrying out of rescue and immediate emergency restoration work.

Based on this premise, the basic tasks of instruction in higher educa-

1/ 7

USSR

YEGOROV, P. T., et al., Civil Defense, Moscow, "Vysshaya Shkola," 1970, 544 pp

tional institutions in the "Civil Defense" course consist of teaching the students -- future specialists -- methods of protection from nuclear weapons, and of teaching them how practically to implement civil defense measures both in peacetime and wartime, and to fulfill the duties of commanders of formations for their instructional profile.

The present textbook was written in accordance with the training program for students of higher educational institutions in the "Civil Defense" course and is intended for students of the nation's technical engineering and humanities educational institutions. Besides this, it can also be used by students of the other higher educational institutions if the general course of this program is studied.

Participating in the compilation of the textbook were teachers of the civil defense course at the Moscow State All-Union Institute, Candidate of Military Sciences Docent P. T. Yegorov (chapters 1, 2 [sections 1 and 2], 6, 8, and 11) and I. A. Shyyakhov (chapters 2 [sections 3 and 4], 3, 4, 5, 9, and 10, and Docent H. I. Alabin, teacher at the Moscow Technological Institute of Light Industry and Candidate of Military Sciences (chapters 7 and 12). Division Director of the USSR Ministry of Higher and Secondary Special Education G. A. Karpov, provided general supervision.

2/7

USSR

YEGOROV, P. T., et al., Civil Defense, Moscow, "Vysshaya Shkola," 1970, 544 pp

Table of Contents	
Foreward	Page
Introduction	3
Chapter 1 Civil Defense in Nuclear Missile Warfare	5
1. Nature of a possible future war	7
2. Tasks of Civil Defense	7
3. Organizational Structure of Civil Defense	14
Chapter 2 Characteristics of Nuclear Weapons (from Materials of Foreign Press)	21
1. Nuclear Arms	44
2. Foci of Nuclear Destruction and Radioactively Contaminated Areas	44
3. Chemical Weapons	83
4. Biological Weapons	90
Chapter 3 Dispersion and Evacuation -- Methods of Protecting the Population	100
1. Organization and Planning of Dispersion and Evacuation	109
2. Ensuring Dispersion and Evacuation	109
3. Implementing Dispersion and Evacuation	121
3/7	129

USSR

YEGOROV, P. T., et al., Civil Defense, Moscow, "Vysshaya Shkola," 1970, 544 pp

Chapter 4 Individual Means of Protection	133
1. Methods of Protecting Respiratory Organs	133
2. Methods of Protecting the Skin	168
Chapter 5 Protective Structures for Civil Defense	177
1. Designation and Classification of Protective Structures	177
2. Shelters, Their Arrangement and Equipment	178
3. Radiationproof Shelters, Their Arrangement and Equipment	206
4. Use of Mines and Mineshafts for Shelter	220
5. Rules for Using Shelters	223
Chapter 6 Engineering and Technical Civil Defense Measures Increasing the Stability of Operation of National Economic Projects	234
1. The concept of Zones of Possible Destruction in a Nuclear Explosion	235
2. Planning and Building Cities and Industrial Regions With Consideration for Civil Defense Requirements	238
3. Evaluation of the Stability of Operation of National Economic Projects with Respect to Destructive Factors of a Nuclear Explosion	245
4/7	

USSR

YEGOROV, P. T., et al., Civil Defense, Moscow, "Vysshaya Shkola," 1970, 544 pp

4. Engineering and Technical Measures Implemented at National Economic Projects	259
5. Planning Engineering and Technical Measures	282
Chapter 7 Planning Civil Defense - Principles of Planning Civil Defense at a National Economic Project	284
1. Designation of a Civil Defense Plan at National Economic Projects	285
2. Main Requirements Made on the Civil Defense Plan of a National Economic Project	286
3. Initial Data for Working Out the Civil Defense Plan of a National Economic Project	288
4. Procedure for Working Out, Approving, and Correcting the Civil Defense Plan of a National Economic Project	289
5. Documents of the Civil Defense Plan of a National Economic Project and Their Storage	290
Chapter 8 Public Action Under Threat of Enemy Attack and on Civil Defense Signals	297
1. Public Action Under Threat of Enemy Attack	298
2. Public Action on Civil Defense Signals	308

5/7

USSR

YEGOROV, P. T., et al., Civil Defense, Moscow "Vysshaya Shkola," 1970, 544 pp	
Chapter 9 Instruments for Radiation and Chemical Reconnaissance and Dosimetric Monitoring	
1. Designation, Classification, and Principle of Operation of Dosimeters	327
2. Instruments for Radiation Reconnaissance of Terrain	327
3. Dosimeters	330
4. Chemical Reconnaissance Instruments	341
Chapter 10 Organization and Carrying Out of Reconnaissance of a National Economic Project in a Focus of Mass Destruction	353
1. Tasks and Kinds of Reconnaissance	367
2. Organizing and Conducting Reconnaissance	367
3. Reconnaissance of Specially Designated Formations (Special Reconnaissance)	372
4. Marking Contaminated Sectors on the Terrain	378
Chapter 11 Rescue and Immediate Emergency Restoration Work	393
1. Personnel, Material and Their Grouping in Starting Areas	396
2. Ensuring the Carrying Out of Rescue Work	396
3. The Work of the Project's Civil Defense Director and Headquarters in Organizing and Carrying Out Rescue Work	402
6/7	408

USSR

YEGOROV, P. T., et al., Civil Defense, Moscow "Vysshaya Shkola," 1970, 544 pp

4. Methods of Carrying Out Rescue Work	419
5. Organization of Party Political Work	447
Chapter 12 Teaching Civil Defense to the Public	454
1. Tasks and Goals of Civil Defense Instruction at National Economic Projects	454
2. Civil Defense Training Programs	460
3. Requirements Made of Instruction	461
4. Organizing and Planning Instruction	464
5. Preparing the Teacher for Studies and Working Out Educational Materials	467
6. Methods and Forms of Instruction	468
7. Spreading Information About Civil Defense	477
Appendixes	479

USSR

UDC 539.3

SHLYAKHOV, S. M.

"Stressed State of a Halfplane with a Nonuniformly Heated Round Hole"

V sb. Nekotoryye zadachi prikl. teorii uprugosti (Some Problems of Applied Elasticity Theory--collection of works), Saratov, 1971, pp 25-31 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11V53)

Translation: The problem of linear thermoelasticity is solved in bipolar coordinates. The solution of the equation of thermal conductivity is represented by a hyperbolic trigonometric series. The stress function contains six arbitrary constants determined from the condition of equality of the corresponding stresses to zero at the hole outline and the halfplane boundary and also the conditions of uniqueness of the displacements obtained by the method of thermal dislocations.

The final formulas for the stresses in general form and also on the hole outline and at the halfplane boundary are presented. The numerical calculations of the stresses at the boundaries of the region are performed for two cases of the temperature field.

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1/2 018 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--USE OF SODIUM HYDROSULFITE DURING ACRYLAMIDE POLYMERIZATION FOR
ELECTROPHORESIS -U-
AUTHOR--(02)-SHLYAKHOVENKO, V.A., SMIRNOVA, I.A.
COUNTRY OF INFO--USSR
SOURCE--LAB. DELO 1970, (5), 311.
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ELECTROPHORESIS, ACRYLAMIDE, POLYMERIZATION, CATALYST, SODIUM
COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO-----FD70/605015/001 STEP NO--UR/9099/70/000/005/0311/0311
CIRC ACCESSION NO--AP0140587

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--05 DEC 77

CIRC ACCESSION NO--AP0140587

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACRYLAMIDE, METHYLENEBIS(ACRYLAMIDE), AND CYANOGLUM, 41 PREPN. WERE POLYMD. IN THE PRESENCE OF 1.7 TIMES 10 PRIME NEGATIVE 3 M K SUB2 S SUB2 O SUB8 AND 4.7 TIMES 10 PRIME NEGATIVE 3 M NA SUB2 S SUB2 O SUB4. THE EXCESS OF THE CATALYST AND DECOMPN. PRODUCTS WERE REMOVED BY PASSING ELEC. CURRENT THROUGH THE GEL PRIOR TO ELECTROPHORESIS. FACILITY: LAB. LEIKOZOV, KIEV. NAUCH. ISSLED. INST. EKSP. KLIN. ONKOL., KIEV, USSR.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--02JCT70
TITLE--CLINICO EPIDEMIOLOGICAL CHARACTERISTICS OF THE SEQUELAE OF EPIDEMIC
HEPATITIS -U-
AUTHOR-(03)-SHLYAKHTENKO, L.I., KANEVSKAYA, M.G., PESHERSTNYAK, T.B.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII 1970, NR 3,
PP. 55-60
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--EPIDEMIOLOGY, HEPATITIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1990/1486 STEP NO--UR/0016/70/000/003/0055/0060
CIRC ACCESSION NO--AP0109546
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0109546

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS PRESENT THE RESULTS OF CLINIC EPIDEMIOLOGICAL STUDY OF 388 HEPATITIS CONVALESCENTS WHO WERE OBSERVED ON A DISPENSARY LEVEL IN THE OFFICES OF INFECTIOUS DISEASES AT POLYCLINICS. THE MINIMAL 6 MONTH PERIOD DISPENSARIZATION OF PERSONS WHO RECOVERED FROM HEPATITIS WAS ADEQUATE FOR 44.7PERCENT OF CONVALESCENTS; THE REST REQUIRED MORE PROLONGED OBSERVATION PROTRACTED FORM OF HEPATITIS (IN SPECIFIC SYMPTOMS OF THE DISEASE PERSISTED UP TO 6 MONTHS) WAS DETECTED IN 7.2PERCENT OF THE PATIENTS, CHRONIC (WITH THE DURATION OF THE DISEASE 3 YEARS, WHICH WAS THE OBSERVATION PERIOD) IN 4.6PERCENT. PATIENTS SUFFERING FROM PROTRACTED AND CHRONIC FORMS OF HEPATITIS CAN SERVE AS ACTIVE SOURCES OF INFECTION. OBSERVATION ON A DISPENSARY LEVEL OF PERSONS WHO SUSTAINED HEPATITIS NOT ONLY PREVENTED ITS CHANGE TO CHRONIC FORM, BUT ALSO LIMITED THE SPREAD OF INFECTION.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--KINETICS OF THE FIELD EMISSION OF P GERMANIUM -U-
AUTHOR-(02)-FURSEY, G.N., SHLYAKHTENKO, P.G.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERD. TELA 1970, 12(2), 645-7
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--FIELD EMISSION, GERMANIUM SEMICONDUCTOR, VOLT AMPERE
CHARACTERISTIC, DIRECT CURRENT, PERIODIC PULSE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1987/1973 STEP NO--UR/0181/70/012/002/0645/0647
CIRC ACCESSION NO--AP0105047
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105047

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN INVESTIGATION WAS CARRIED OUT OF THE KINETICS OF FIELD EMISSION WITH THE USE OF HIGH VOLTAGE (0.5-10 KV) RECTANGULAR PULSES OF VOLTAGE OF NEG. PLARITY APPLIED TO THE CATHODE. EMITTERS WERE USED FILLED WITH P-GE ORIENTED IN THE DIRECTION (011). THE VACUUM IN THE APP. WAS 10 PRIME NEGATIVE9 MM HG. IN THOSE REGIONS OF CURRENT VOLTAGE CHARACTERISTICS, WHERE DEVIATION FROM THE STRAIGHT LINE IS OBSD., THE EMISSION CURRENT VARIES WITH TIME AT CONST. VOLTAGE IN THE PULSE. IN THE INITIAL STAGE, TIME DEPENDENCE OF CURRENT IS ABSENT AND SQUARE PULSES OF VOLTAGE CORRESPONDS A SQUARE PULSE OF CURRENT. FACILITY: LENINGRAD. GOS. UNIV. IM. ZHDANOVA, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 681.327.11

ANTONOVA, T. N., BABKIN, V. YA., IOFFE, M. G., KOSHEVOY, L. L., SHLYAKHTER, D. M.

"A Device for Recording Information"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 23, 1970, Author's Certificate No 276514, Filed 18 Mar 69, p 137

Abstract: This author's certificate introduces a device for recording information and contains memory units, distributors, a master oscillator, an electronic clock, a control module, a printout and logic circuits. As a distinguishing feature of the patent, speed is increased and reliability is improved by introducing an inhibitor connected between the master oscillator and the distributor counter. One of the inputs of this counter is connected to the outputs of the flip-flops in the cells of the memory units, while its other input is connected through an OR gate to the outputs of the coincidence circuits of these cells. Also incorporated in the device is a printout control module which contains a coincidence whose inputs are connected to the outputs of the coincidence circuits in the memory units and to one of the inputs of the coincidence circuits of the control module. A flip-flop is also added with its input connected to the output of the coincidence circuit

1/2

USSR

ANTONOVA, T. N., et al., Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 23, 1970, Author's Certificate No 276514, Filed 18 Mar 69, p 137

and its output connected to one of the inputs of the other coincidence circuits in the control module, which are connected through OR circuits to the output amplifiers.

2/2

USSR

UDC: 621.373.531(088.8)

SHLYAKHTIN, A. Ye.

"A Pulse Generator With Independent Regulation of Pulse Fronts"

USSR Author's Certificate No 266822, filed 8 Dec 68, published 2 Jul 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1Q209 P)

Translation: This Author's Certificate introduces a pulse generator with independent control of pulse fronts. The device contains a transistorized switch, a controllable RC time-mark network and a diode limiter. To increase the ratio of a shallow pulse front to a steep front, the output of the stage which shapes the leading edge of the pulse is connected through the RC network to a stage based on a transistor in a common-collector circuit. Connected to the emitter of this transistor are a second storage capacitor and a resistor circuit for controlling the trailing edge of the pulse.

1/1

1/2 019
TITLE--DEVELOPMENT OF SENSORY INNERVATION OF THE HUMAN RECTUM IN PRENATAL
ONTOGENESIS -U- UNCLASSIFIED
AUTHOR--SHLYAKHTIN, G.V.
COUNTRY OF INFO--USSR
SOURCE--ARKH ANAT GISTOL EMBRIOL 58(1): 56-64. ILLUS. 1970
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--EMBRYOLOGY, FETUS, LARGE INTESTINE, NERVOUS SYSTEM, GANGLION,
CELL PHYSIOLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1089
CIRC ACCESSION NO--AP0128516
STEP NO--UR/9076/70/058/001/0056/0064
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0128516

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INGROWTH OF AFFERENT FIBERS INTO THE RECTAL WALL WAS REVEALED BY THE END OF EMBRYONAL OR BEGINNING OF THE FETAL PERIOD. CONCENTRATION OF NEUROBLASTS OCCURS AT POINTS OF INTERSECTION OF THESE FIBERS. THE SENSORY TUFTS APPEAR BY 12-14 WK. INCAPSULATED VATER-PACINIAN CORPUSCLES AND GLOMERULAR RECEPTORS DEVELOP AT 14-17 WK. SENSORY ENDINGS WITHIN GANGLIA OF AUERBACH'S PLEXUS APPEAR IN FETUSES AGED 14-16 WK AND BY 17-18 WK DIRECT CONNECTIONS BECOME ESTABLISHED BETWEEN AFFERENT NERVE FIBERS OF THE CNS AND GANGLIONIC NEURONS OF RECTAL INTRAMURAL PLEXUSES. IN THE 2ND HALF OF THE FETAL PERIOD GROWTH OF THE NUMBER OF SENSORY ENDINGS CONTINUES. AT TERM AFFERENT FORMATIONS OF THE HUMAN RECTUM APPEAR TO BE FUNCTIONALLY EFFECTIVE ON MORPHOLOGIC EVIDENCE, ALTHOUGH DIFFERENTIATION OF OCCASIONAL RECEPTOR ENDINGS CONTINUES IN THE POSTNATAL PERIOD. FACILITY: LAB. MORPHOL., I. P. PAVLOV INST, PHYSIOL., ACAD. SCI. USSR, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 681.325.54.042

SUKHOV, L. N., SHLYAKHTIN, V. T., KRYLOV, Yu. D., PANOV, V. P., and
PARAMONOV, K. G.

"A Reversible Binary Counter"

USSR Author's Certificate No 280542, Filed 12 Dec 68, Published 9 Dec 70
(from Referativnyy Zhurnal --- Avtomatika, Telemekhanika, i Vychislitel'naya
Tekhnika, No 8, 1971, Abstract No 8B188 P)

Translation: The purpose of this invention is to ensure stable operation of a counter, given a significant level of noise. This is achieved by having each digit position of the counter consist of two "memory" cells connected in series via an AND cell, while a NOT inverter is connected to the input of the first position. The binary reversible counter includes an inverter, which is meant to control the counter according to the change in potential; delay lines consisting of logical "memory" elements; logic circuits consisting of AND cells; and memory elements consisting of logical "memory" elements.

1/1

- 34 -

USSR

UDC: 681.327.2

SUKHOV, L. N., SHLYAKHTIN, V. T., KRYLOV, Yu. D., PANOY, V. P., PARAMONOV, K. G.
"A Reversible Binary Counter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 28,
1970, Soviet Patent No 280542, Class 21, filed 12 Dec 68, p 40

Abstract: This Author's Certificate introduces a reversible binary counter which contains digital places on "memory" cells, AND cells, and a control bus. As a distinguishing feature of the patent, operational stability is ensured in the presence of an appreciable level of industrial interference by making each digital place of the counter in the form of two "memory" cells connected in series through an AND cell, and connecting a NOT inverter to the input of the first digital place.

1/1

- 95 -

1/2 023 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--RESONANCE INTEGRALS OF THE FISSION OF URANIUM, PLUTONIUM, AND
AMERICIUM ISOTOPES -U-
AUTHOR--(051)-PETRAZHAK, K.A., BAK, M.A., PETROV, YU.G., ROMANOV, YU.F.,
SHLYAMIN, E.A.
COUNTRY OF INFO--USSR
SOURCE--AT. ENERG. 1970, 29(CT), 359-60
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--NUCLEAR FISSION, NUCLEAR RESONANCE, INTEGRAL FUNCTION,
URANIUM, PLUTONIUM, AMERICIUM, FISSION CROSS SECTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3007/1066

STEP NO--UR/0089/70/028/000/0359/0360

CIRC ACCESSION NO--AP0136486

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136486

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FISSION RESONANCE INTEGRALS WERE DETD. TO BE PRIME233 U 850 PLUS OR MINUS 90, PRIME239 PU 330 PLUS OR MINUS 30, PRIME241 PU 550 PLUS OR MINUS 40, AND PRIME241 AM 21 PLUS OR MINUS 2 BARNS. THE FISSION RESONANCE INTEGRAL FOR PRIME235 U WAS TAKEN AS 274 PLUS OR MINUS 11 IN THE CALCNS.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THORIUM-228 AND URANIUM-232 PRODUCTION DURING THE NEUTRON
IRRADIATION OF PROACTINIUM-231 -U-
AUTHOR--(04)-BAK, M.A., BARANOV, YU.I., KRIVOKHATSKIY, A.S., SHLYAMIN, E.A.
COUNTRY OF INFO--USSR
SOURCE--AT. ENERG. 1970, 28(3), 234
DATE PUBLISHED-----70
SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY
TOPIC TAGS--NEUTRON-BOMBARDMENT, SLOW NEUTRON, PROACTINIUM ISOTOPE,
FISSIONABLE MATERIAL, URANIUM ISOTOPE, THORIUM ISOTOPE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0056 STEP NO--UR/0089/70/028/003/0234/0234
CIRC ACCESSION NO--AP0120756
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0120756

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE IRRADN. OF PRIME231 PA WITH SLOW N, THE MAX. ACCUMULATION OF PRIME232 U (SIMILAR TO 40PERCENT OF THE STARTING AMT. OF PRIME231 PA) IS OBTAINED BY IRRADN. FOR 1.8 YR AT THE OPTIMUM FLUX OF 10 PRIME14 N-(CM PRIME2-SEC); THE MAX. YIELD OF PRIME228 TH IS 0.9PERCENT, BY IRRADN. FOR 16.5 YR AT A FLUX OF 10 PRIME13 N-(CM PRIME2-SEC). THE AMT. OF PRIME228 TH IN EQUIL. WITH 1 G OF PRIME232 U IS 25.8 MG.

UNCLASSIFIED

USSR

UDC 621.039.8.002

BAK, M. A., BARANOV, YU. I., KRIVOKHATSKIY, A. S., and SHLYAMIN, E. A.

"Special Features of the Production of Th^{228} and U^{232} by Neutron Irradiation of Pa^{231} "

Moscow, Akademiya Nauk SSSR, Atomnaya Energiya, Vol 28, No 3, Mar 70, p 234

Abstract: A calculation was made of the U^{232} and Th^{228} accumulation by irradiation of Pa^{231} by slow neutron fluxes in the 10^{13} - 10^{16} neutron/cm² . sec density range. About 40% of the initial quantity of Pa^{231} was a maximum accumulation of U^{232} attained during the optimum irradiation time of 1.8 year at the 10^{14} neutron/cm² . sec optimal electron flux density. The maximum Th^{228} yield amounts to 0.9% at a 10^{13} neutron/cm² . sec flux density for 16.5 years. The U^{232} yield, equal to about 63%, can be attained in one year by the continuous extraction of U^{232} from the irradiated volume of Pa^{231} , irradiated in a loop by a 10^{14} neutron/cm² . sec flux. For comparison, only 35% is attained by protactinium irradiation under the same conditions. The accumulation of U^{232} by Pa^{231} irradiation by various slow neutron fluxes is shown in a table. Orig. art. has: 1 table.

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USSR

UDC 620.17:669.71'5'721:620.176.251.1

BARANOV, N. S., KALININA, A. P., STEPANOV, G. A., and SHLYANNEVA, I. A.
"Dependence of Mechanical Properties of Alloys in the System Al-Zn-Mg on
Aging Modes"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 10, 1970,
pp 32-34

Abstract: Results are presented from an investigation of the influence of heat treatment and preliminary natural aging modes before artificial aging on the mechanical properties of alloys in the Al-Zn-Mg system at 20° and -196°C. It is concluded that the heat treatment modes for alloys in the Al-Zn-Mg system which will be used at low temperatures can be selected so as to provide satisfactory properties at +20°C, since the properties at -196°C vary directly with the properties at +20°C. Artificial aging at 100°C for four hours followed by 7-9 hours at 150°C, with subsequent natural aging for 24 hours or more results in rather high strength properties and satisfactory plastic properties at -196°C.

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USSR

UDC 669.973:669.14.018.8

STEPANOV, G. A., GRUDZINSKIY, B. V., and SHLYAMNEVA, I. A.

"Properties of Kh18N10T and Kh21N5AG7 Steels under Load at -196°C "

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, No 6, 1970, pp 13-16

Abstract: The results of an investigation of the properties of Kh18N10T and Kh21N5AG7 steels under prolonged (up to 2000 hours) load at -196°C are presented. Test procedures are briefly described. The mechanical properties, plastic deformation, and stress relaxation of steels in service was determined. It was established that plastic deformation of Kh21N5AG7 steel during prolonged tests does not increase with time. The relaxation of this steel is substantially higher than that of Kh18N10T steel. Kh21N5AG7 steel appears to be an effective substitute for Kh18N10T steel in structures subjected to negative temperatures, and also has higher strength properties than the latter. Time variations of the plastic deformation of Kh18N10T steel are shown in a graph. 2 figures, 2 references.

1/1

- 76 -

USSR

UDC 621.318.576

LERNER, M. I., PANTELEYEV, V. N., RYZHEVSKIY, A. G., ~~SHLYANDIN, V. M.~~

"Digital Display Device"

USSR Author's Certificate No 307401, filed 27 Nov 69, published 29 Jul 71 (from
RZh--Avtomatika, Telemekhanika i vychislitel'naya tekhnika, No 4, Apr 72,
Abstract No 4A474P)

Translation: A digital display device is proposed which contains a counting decade, a decoder, switches, a display tube, and switch transistors, the base outputs of which are connected via resistors to the outputs of the low-order flip-flop of the counting decade. In order to use low-voltage elements requiring a feed voltage which is positive with respect to the common point to control the indicator tube, the anodes of the indicator tube are connected via series-connected resistors and diodes to the power supply and via capacitors to the collectors of the switch transistors connected via resistors to the power supply, and the bases of the transistors are connected via resistors to the control pulse source. There is 1 illustration.

1/1

- 7 -

USSR

UDC: 621.3.083.721

PANTELEYEV, V. N., RYZHEVSKIY, A. G., and ~~SHLYANDIN, V. M.~~

"Shape of the Scanning Voltage in Time-Pulse Converters"

Novosibirsk, Avtometriya, No 5, 1971, pp 97-104

Abstract: Since the available literature offers no means of generalizing the choice of scanning voltage shape in analog-digital converters used for time-pulse conversion, the purpose of the authors is to develop such an approach. A possible application of the approach is to find new areas for the utilization of the time-pulse converter. Two types of possible equipment for generating the proper scanning voltage shape are shown in the form of block diagrams. It is shown that the shape is determined by the type of conversion parameter and by the conversion characteristic, and a general equation is obtained for the scanning voltage. From this equation, an expression for the voltage as applied to a particular type of conversion parameter can be found for a specified conversion characteristic.

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USSR

UDC 621.3.083.8

MEL'NIKOV, A. A., RYZHEVSKIY, A. G., TRIFONOV, YE. F., ~~SHLYANDIN, V. M.~~ Penza
"Some Means of Constructing High-Speed Frequency-to-Code Converters with Simulation of the Inverse Function"

Novosibirsk, Avtometriya, No 2, 1972, pp 40-46

Abstract: A study was made of possible means of implementing the structures of high speed analog-to-digital frequency converters with simulation of the inverse function. The basic problem in implementing the investigated converters is development of the functional generator which in connection with its purpose is called a square-law function generator. The construction of the square law function generator from binary multipliers and binary dividers is discussed in detail. Inasmuch as the conversion result in the discussed devices is proportional to the frequency of the investigated signal and the conversion time is equal to one period of the signal, they are characterized by the properties of both digital frequency meters and period meters. Their advantages include limiting high speed characteristic of the meters and proportionality of the results of the conversion to the frequency of the investigated signal characteristic of frequency meters. The disadvantages include the presence of errors in shaping the time interval characteristic of period meters and an increase in the relative conversion error at the beginning of the range characteristic of frequency meters. The introduction of a conversion digitalization

- 72 -

USSR

MEL'NIKOV, A. A., et al., Avtometriya, No 2, 1972, pp 40-46

switch in the described devices permits the counter to contain the code result proportional to the frequency of the investigated signal with an error not exceeding the given error for the time of 1 period of the investigated signal. A model frequency to code converter was developed for the frequency range from 1 to 1,024 hertz. An error on the order of $\pm 0.2\%$ was obtained in the indicated frequency range.

USSR

UDC: 621.317.32

SHAKHOV, E. K., TELEGIN, S. M., and SHLYANDIN, V. N.

"Digital Measurement of A-C Effective Voltage"

Leningrad, Priborostroyeniye, No 5, 1972, pp 17-21

Abstract: A method for the highly accurate measure of the effective values of a-c voltages in the low and infrared frequency ranges is described. The method uses intermediate signal transformation to a frequency permitting a digital count of the effective value of a voltage of arbitrary shape independent of the latter's frequency. The block diagram of one instrument for employing this method is given together with a verbal and mathematical explanation of its performance, and reasons for the superiority of this method over conventional ones are presented. An account of the practical check of the method is also given. The authors are associated with the Penza Polytechnical Institute.

1/1

- 128 -

USSR

UDC 621.325.5

RYZHEVSKAYA, T. N., RYZHEVSKIY, A. G., SHAKHOV, E. K., SHLYANDIN, V. M.,
Penza Polytechnical Institute

"A Percentage Time-Pulse Converter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztzy, Tovarnyye Znaki,
No 5, Feb 72, Author's Certificate No 327601, Division H, filed 27 Nov 69,
published 26 Jan 72, p 169

Translation: This Author's Certificate introduces a percentage pulse-time converter which contains a control module, voltage comparison modules, a linearly varying voltage generator, a count pulse generator, coincidence circuits, OR circuits, a frequency divider, a switch, a digital pulse counter, pulse number counters. As a distinguishing feature of the patent, conversion accuracy is improved by adding another pulse counter. The outputs of the comparison modules are connected through the coincidence circuits to the counters, whose code outputs are connected to the inputs of the coincidence circuits. The other inputs of the coincidence circuits are connected to the code outputs of the additional counter. The outputs of the coincidence circuits are connected through the OR circuits to the digital counter and to the frequency divider.

1/1

44

UDC 681.355

USSR

BELYAKOV, V. M., BLINKOV, Yu. B., LOMTEV, Ye. A., and SHLYANDIN, V. M.

"Time Interval-to-Digital Code Converter"

USSR Author's Certificate No 262514, Filed 1/07/68, Published 2/11/70
(Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i
Vychislitel'naya Tekhnika, No 5, 1971, Abstract No 5B485P)

Translation: A time interval-to-digital code converter is suggested, containing forming flip-flops, a collector circuit, digital memory registers, and a delay line with taps. The outputs of the delay line are connected to the inputs of the collector circuit; the outputs of the collectors circuit are connected to the first input of the forming flip-flop, the second input of which is connected to the last delay line output; the inputs of the digital memory registers are connected to the outputs of the delay line. In order to simplify the converter, it contains coincidence circuits, a pulse expander, and a shift register. The input of the delay line is connected to the input of the shift register and the output of the coincidence circuit; the input of the coincidence circuit is connected to the output of the forming flip-flop, one input of which is connected to the "clear" terminal, while the other is connected to the input of the delay

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USSR

BELYAKOV, V. M., et al., USSR Author's Certificate No 262514, Filed 1/07/68, Published 2/11/70 (Translated from Referativnyy Zhurnal Avtomatika, Tele-mekhanika i Vychislitel'naya Tekhnika, No 5, 1971, Abstract No 5B485P)

line. The enabling inputs of the memory registers are connected to the first inputs of the digital coincidence circuits. The outputs of the coincidence circuits of the digits are connected to the output of the forming flip-flop of the collection circuit; the second inputs of the digital coincidence circuits are connected to the outputs of the shift register, while the input of the forming flip-flop of the collecting circuit is connected to the input of the pulse expander, the output of which is connected to the first input of the coincidence circuit. The second input of the coincidence circuit is connected to the last output of the shift register, and the output of the coincidence circuit is connected to the input of the delay line. 2 figs.

2/2

- 100 -

USSR

Instruments and Measurements

UDC 621.317.791

IVANOV, G. YE., KIRIN, YU. P., RYZHEVSKIY, A. G., RYZHEVSKAYA, T. N.,
SHLYANDIN, V. M.

"Procedure for Measuring Passive Parameters of Electric Circuits"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztzy, Tovarnyye Znaki,
No 17, 12 May 70, p 55, Patent No 270881, Filed 11 Feb 69

Translation: This Author's certificate introduces a procedure for measuring the passive parameters of electric circuits based on investigation of the transient process in a measuring circuit containing active and reactive elements. In order to widen the measurement limits, improve the accuracy of the beginning of the measurement range and decrease the power dissipated in the investigated element, a linearly varying voltage is fed simultaneously to the measuring circuit and the resistive voltage divider. The point at which the voltages at the midpoints of the measuring circuit and the divider are equal is determined, and the time interval proportional to the measured parameter is isolated.

1/1

AA0044297

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

243732 NUMERICAL MEASURING EQUIPMENT OF ELECTRICAL
PARAMETERS in which impulse generator is
associated through gating circuits with two counters
one of which is connected to a code-voltage converter.
The gating circuits are connected to a measuring
bridge the output from which is compared with the
code-voltage converter. The equipment measures
sequentially electrical parameters of a component.
15.1.68 as 1210521/18-10.V.M.SHLIANDIN et al.
PENZA POLYTECHNICAL (30.9.69) Bul 17/14.5.69.Class
21e. Int.Cl.G 01r.

AUTHORS: Shlyandin, V. M., Ryzhevskiy, A. G., Kirin, Yu. P.
Penzenskiy Politekhicheskiy Institut

19770851

USSR

UDC: 622.375.122

LYADOV, B. N., BLINKOV, Yu. V., LOMTEV, Ye. A., ~~SHLYANDIN, V. M.~~, Penza
Polytechnical Institute

"A Multistage Amplifier"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 11, Apr 72, Author's Certificate No 333675, Division H, filed 3 Aug 70,
published 21 Mar 72, p 220

Translation: This Author's Certificate introduces a multistage amplifier for AC signals based on transistors connected in a common-emitter circuit. As a distinguishing feature of the patent, the operating stability of the amplifier is improved with respect to direct current and the device is simplified by joining together the emitters of all transistors in the odd stages and the emitters of all transistors in even stages, and connecting them to the common line of the amplifier through RC bias networks which are common for the joined transistors. The collector of the transistor in each preceding stage is connected to the base of the transistor in each following stage through a resistive divider.

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USSR

Molecular Biology

UDC 576.858.6

SHLYANKEVICH, M. A., Institute of Experimental and Clinical Oncology,
Academy of Medical Sciences USSR

"Molecular Genetic Mechanisms for the Integration of Virus DNA Into the
Cell Genome During Oncogenesis"

Moscow, Uspekhi Sovremennoy Biologii, Vol 73, Vyp 2, 1972, pp 192-208

Abstract: Papers are reviewed that deal with the incorporation of the viral genome for some oncogenic viruses that have cyclic DNA, the most intensively studied of which are polyoma and SV-40. A discussion of the mechanism of viral recombination includes the roles of breaks in the chain, of homologous portions of single-strand pieces of DNA, of cleavage and repair systems of enzymes, of the accessibility of portions of the DNA to enzymes, and of specific and nonspecific enzymes. These points are then used as background for the review of known information on the recombination and incorporation of temperature bacteriophages into E. coli chromosomes. Possible mechanisms of incorporation of oncogenic DNA viruses are discussed along similar lines. The relation between recombination and the initiation of replication is discussed in terms of the Jacob-Monod model. Enzyme systems involved in a necessary early step -- cleavage of the viral DNA -- are discussed with a review of work on temperature-sensitive mutants of the polyoma virus. The

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USSR

SHLYANKOVICH, M. A., Uspekhi Sovremennoy Biologii, Vol 73, Vyp 2, 1972, pp 192-208

possibility is analyzed that a virus-specific enzyme "recognizes" specific loci on the viral DNA. This involves consideration of configurational forms of the viral DNA, of the ability to transform cells persistently, of T-antigens, and of DNA ligase. Induction of breaks in the host cell DNA is then discussed, with consideration of the possibility that viral products are involved. The roles of "recognition" and of regions of homology in virus and host DNA, the relation of cellular DNA repair and replication processes to virus incorporation, and the possible role of chemical and physical agents in facilitating virus incorporation are reviewed.

2/2

SHLYANKEVICH, M. A.

SPRS 53272
50: 616
#3 02 JUNE 71

UFC: 616-006-092.18

TRANSFORMATION OF A NORMAL DIFFERENTIATED CELL OF THE ADULT ORGANISM INDUCED BY REGION OF THIS CELL WITH ANOTHER NORMAL CELL OF THE SAME ORGANISM BUT WITH DIFFERENT ORGANIC OR TISSUE SPECIFICITY
Article by L.B. Mekler, O.B. Dyke, I.V. Gochinsky, M.A. Shlyankevich
Institute of Experimental and Clinical Oncology, USSR Academy of Medical Sciences, Moscow; Vestnik Akademii Meditsinskikh Nauk SSSR, Russian, No 4, April 1971, pp 75-80

The central position of the theory of oncogenesis expounded by one of the present authors (L.B. Mekler, 1968, 1969, 1970) states that a normal cell becomes malignant, i.e. acquires the ability of anomalous growth and reproduction, invasion, metastases, and progression only when, by virtue of some causes or other (L.B. Mekler, 1968, 1969, 1970) on its surface appear organ-specific or tissue-specific antigens inherent to cells of other tissues or organs of the same organism. According to this theory, such a change in antigenic topography of a normal cell surface is sufficient, on the one hand, to remove this cell from the control of adjacent similar normal cells, and, on the other hand, to render it capable of affecting specific contacts with adjacent or distant cells of another tissue or organ. This must result in loss by the altered cell of sensitivity to contact inhibition and acquisition of the capacity to invade and metastasize precisely the tissues or organs whose specific antigens this cell acquired.

This approach to interpretation of the causes of transformation of a normal cell into a malignant one is basically different from the conventional views of the cause of this phenomenon which consider appearance on the surface of the transformed cells of antigens foreign to the organisms induced by agents such as viruses or chemical carcinogens (L.A. Zil'ber, Noprowski et al.) to be the basis of malignant transformation of the cell (referring direct of all to malignant transformation induced by viruses or carcinogenic chemical substances).

Although the literature describes a number of factors indirectly confirming the above theory, there is no question but that direct evidence is needed to test its validity.

USSR

UDC 616-006/092.9-02:576.858.75 (Sendai).097.5

SHLYANKEVICH, M. A., MEKLER, L. B., and SHEVLYAGIN, V. YA., Institute of Experimental and Clinical Oncology, Academy of Medical Sciences USSR, and Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences USSR

"Function of the Genome of Inactivated Sendai Virus in the Formation of Artificial Heterokaryons"

Leningrad, Voprosy Onkologii, No 1, 1970, pp 58-62

Abstract: Using the immunofluorescence method, the authors found that during the formation of heterokaryons obtained from HRO cells and chick fibroblasts, Sendai virus inactivated by ultraviolet irradiation or treatment with betapropiolactone stimulated the production of T-antigen alone. There was no biosynthesis of viral components (V-antigen, hemagglutinins, ribonucleoproteins) or of the complete infective virus. T-antigen was found in ordinary cells and heterokaryons for a brief period of time, disappearing after 5-7 days. T-antigen occurred only in the cytoplasm, not on the cell surface.

1/1

- 31 -

Physical Properties

USSR

UDC 669.018.5:538.21

LIVSHITS, B. G., SUMIN, V. I., LILEYEV, A. S., and SHLYAPIN, A. D., Moscow
Institute of Steel and Alloys

"The Effect of Cubic Crystalline Anisotropy on the Magnetic Properties of the
YuNDK35T5 Alloy"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Chernaya Metallurgiya, No
11, 1970, pp 122-125

Abstract: Temperature dependences of the saturation magnetization coercivity, the constant of uniaxial anisotropy, and the constant of the cubic crystalline anisotropy were investigated on the YuNDK 35T5 alloy (35% Co; 13-14% Ni; 7.5% Al; 5% Ti; 3.5% Cu; the rest Fe) after isothermal treatment. A comparison of experimental and theoretical data led to the conclusion that other anisotropy types in the YuNDK35T5 alloy should be investigated. On the basis of the Stoner-Wohlfarth formula the angular dependences of the coercivity for a single-domain anisotropic-form particle with a cubic crystalline anisotropy were established. Cubic crystalline anisotropy was shown to have a considerable effect on the remagnetization mechanism of the alloy. It also explains the greatly increased coercivity in tempering.

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USSR

UDC: 533.652/.661.013

VERESHCHAGIN, I. F., MALANIN, V. V., ~~SHLYAPIN, Ye. K.~~

"Equations of Motion of an Aircraft With Nozzle in a Cardan Suspension"
Uch. zap. Perm. un-t (Scientific Notes of Perm' University), 1971, No 239,
pp 85-103 (from RZh-Mekhanika, No 7, Jul 71, Abstract No 7B339)

Translation: Equations of motion (rotational motion and displacement of the center of mass) are derived for an aircraft consisting of two parts -- a rigid hull within which a solid fuel charge is located, and a nozzle held in a Cardan suspension with two degrees of freedom relative to the hull. Effects due to displacement of the center of mass and the geometric characteristics of the vehicle are taken into consideration. After derivation of the complete system of equations, simplifications are made for the case where the center of mass of the nozzle coincides with the center of suspension, and the hull is axisymmetric, and the equations are also linearized. The equations of motion of the center of mass are considered in localized, velocity, and absolute systems of coordinates. It is recommended that the velocity system be used in the presence of aerodynamic forces, and that the others be used in the absence of such forces. G. S. Aronin.

1/1

- 9 -

USSR

UDC: 533.652/.661.013

VERESHCHAGIN, I. F., MALANIN, V. V., SHLYAPIN, Ya. K.

"Motion of an Aircraft With Nozzle in a Cardan Suspension"

Uch. zap. Perm. un-t (Scientific Notes of Perm' University), 1971, No 239, pp 104-129 (from RZh-Mekhanika, No 7, Jul 71, Abstract No 73340)

Translation: On the basis of previously derived equations of motion (see abstract 7B339), an investigation is made of the motion of an aircraft with nozzle in a Cardan suspension. In integration of the linearized equations of rotational motions, programmed rotation of the vehicle relative to the longitudinal axis is predetermined. The conditions of stability of this motion are considered in the absence of rotations relative to the other axes and when the nozzle is in the neutral position. Damping of the angular velocity is also considered in two modifications, as well as reduction of the rotation of the vehicle to a single axis and stabilization of the position of the vertical hull of the vehicle. The equations of motion of the center of mass are integrated for one special case -- horizontal flight with regard to atmospheric drag. G. S. Aronin.

1/1

- 34 -

UNCLASSIFIED
TITLE--MULTIPLE SCATTERING MATRIX WITH ENERGY LOSSES --U-
AUTHOR--(02)--MANYUKOV, B.A., SHLYAPNIKOV, P.V.
COUNTRY OF INFO--USSR
SOURCE--YADERN. FIZ.; 11: 605-7 (MAR 1970)
DATE PUBLISHED--MAR70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--SCATTERING MATRIX, MULTIPLE SCATTERING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/2218
CIRC ACCESSION NO--AP0127580
STEP NO--UR/0367/70/011/000/0605/0607
UNCLASSIFIED

"APPROVED FOR RELEASE: 07/20/2001

CIA-RDP86-00513R002202930007-6

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CIRC ACCESSION NO--AP0127580 UNCLASSIFIED
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A MULTIPLE SCATTERING MATRIX WHICH
TAKES INTO ACCOUNT ENERGY LOSSES OF THE PARTICLE IS OBTAINED WITHIN THE
VALIDITY OF THE FERMI DISTRIBUTION. FACILITY: JOINT INST. FOR
NUCLEAR RESEARCH, DUBNA, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001

CIA-RDP86-00513R002202930007-6"

1/2 013
UNCLASSIFIED
TITLE--PROGRAM FOR CALCULATING THE KINEMATIC PARAMETERS OF ELECTRON TRACKS
IN BUBBLE CHAMBERS, AND RESULTS OF STATISTICAL TESTING -U-
AUTHOR-(03)-GERDYUKOV, L.N., MANYUKOV, B.A., SHLYAPNIKOV, P.V.
PROCESSING DATE--27NOV70
COUNTRY OF INFO--USSR
SOURCE--PRIB. TEKHN. EKSP. 1970, (2), 255-6
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--ELECTRON, BUBBLE CHAMBER, PARTICLE TRACK
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3008/2010
STEP NO--UR/0120/70/000/002/0255/0256
CIRC ACCESSION NO--AP0138864
UNCLASSIFIED

2/2 013
CIRC ACCESSION NO--AP0138864 UNCLASSIFIED
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROGRAM "ELEKTRON" IS
DESCRIBED FOR CALCG. THE KINEMATIC PARAMETERS OF E TRACKS IN BUBBLE
CHAMBERS WITH HEAVY LIQS., SUCH AS C SUB3 H SUB8, C SUB2 F SUB5 CL.
FACILITY: OB'EDIRR. INST. YAD. ISSLED., DUBNA, USSR. PROCESSING DATE--27NOV70

UNCLASSIFIED

USSR

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15

BUDAGOV, YU. A., VINOGRADOV, V. B., VOLOD'KO, A. G., DZHELEPOV, V. P., KIRILLOV-
 -UGRYUMOV, V. G., Kladnitskiy, V. S., KUZNETSOV, A. A., LOMAKIN, YU. F., MEL'NIKOVA,
 N. N., PONOSOV, A. K., FLYAGIN, V. B., SHLYAPNIKOV, P. V., MARTINSKA, G. (1),
 BOLDEA, V. (2), MIKHUL, A. (2), MUMUYANU, D. (2), PONTA, T. (2), FELEA, S. (2),
 and CHADRAA, B. (3), Joint Institute of Nuclear Research; (1) University imeni P.
 I. Shafarik, Koshitse, Czechoslovak SSR; (2) Institute of Atomic Physics, Bucharest,
 Romania; (3) Physics Institute of the Academy of Sciences Mongolian People's Repub-
 lic, Ulan-Bator

"Study of the Mass Spectrum of a ΛK -System in $\pi^- p$ -Interactions at 4 and 5.1 GeV/c"
 Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol. 11, No. 1,
 5 Jan 70, pp 31-35

Abstract: The results of a study of the spectrum of the effective masses of a
 ΛK -system are reported. The spectrum was obtained in investigating $\pi^- p$ -interactions
 in a 24-liter and a 1-meter propane bubble chamber irradiated in π -meson beams of
 the proton synchrotron of the Joint Institute of Nuclear Research with pulses of
 4 and 5.1 GeV/c, respectively. An investigation of the structure of the effective
 mass spectrum of a ΛK -system was of interest from the viewpoint of observing new

1/2

USSR

BUDAGOV, YU. A., et al, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol. 11, No. 1, 5 Jan 70, pp 31-35

resonances with zero strangeness and the decays of different isobars via the channel $N^* \rightarrow \Lambda + K$, to determine the relative probabilities of these decays. Approximately 230,000 photographs were analyzed for each bubble chamber. The effective mass spectra of ΛK^0 combinations for events in which the decays of a Λ -hyperon and a K^0 -meson were simultaneously recorded in the chamber are graphed. The graphs show a considerable excess in the number of events above the background in the mass region 1.61-1.96 GeV/c². It is shown that this anomaly is not associated with the reflection of known resonances Y^* (1385) and K^* (890) in the ΛK^0 -spectrum. The total excess in the number of events over the background in the mass interval 1.61-1.96 GeV/c² was 114 ± 13 . The experimental data verify the existence of two resonances with masses about 1685 and 1935 MeV/c² and widths of the order of 150 MeV/c². It is concluded that the anomaly observed in the effective mass spectrum of ΛK can be explained only by the decay of the isobar S_{11} (1710), P_{11} (1750) via the channel $N^* \rightarrow \Lambda + K$ or by the existence of a new resonance with mass about 1685 MeV/c², as the data of R. Erbe et al indicate.

2/2

- 132 -

1/2 030
UNCLASSIFIED
PROCESSING DATE--30OCT70
TITLE--SOLUBILITY OF ANTIOXIDANTS IN CRYSTALLINE POLYETHYLENE -U-
AUTHOR--(04)--GROMOV, B.A., KORDUNER, N.YE., MILLER, V.B., SHLYAPNIKOV,
YU.A.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(6), 1381-2 (PHYS CHEM)
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SOLUBILITY, POLYETHYLENE, ANTIOXIDANT ADDITIVE, ANILINE,
AMINE, BENZENE DERIVATIVE, CRYSTAL, IR SPECTROSCOPY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/0710
STEP NO--JR/0020/70/190/006/1381/1382
CIRC ACCESSION NO--ATO124380
UNCLASSIFIED

030
CIRC ACCESSION NO--ATO124380
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT. THE SOLY. OF PH SUB2 NH,
PHENYL, BETA, NAPHTYLAMINE, AND CYCLOHEXYLBENZENE (USED AS A MODEL
COMPD.) IN POLYRYHYLENE (I) CONTG. VARIOUS AMTS. OF CRYST. PHASE (DETD.
BY IR SPECTROSCOPY) DOES NOT DEPEND ON ITS CRYSTALLINITY, EXCEPT THAT
WHEN THE CRYSTALLINITY APPROACHES 100PERCENT, THERE IS A LOWERING OF
SOLY. THE SOLY. OF ANTIOXIDANTS IN THE CRYST. PHASE IS PROBABLY DUE TO
MICROFISSURES. THERE IS A SOLY. INCREASE WITH TEMP. IN THE
30-60DEGREES RANGE.
FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

022
CIRC ACCESSION NO--AP0116668 UNCLASSIFIED PROCESSING DATE--30OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CARBON BLACK (I) CAUSES THE
DECOMPN. (OR RECOMBINATION) OF PEROXY FREE RADICALS AND, WHEN USED AS A
FILLER IN HIGH-D. POLYETHYLENE, IT ACTS AS ANTIOXIDANT ESP. AT HIGH
CONCNS. OF HYDROPEROXY RADICALS (YA. P. KAPACAUSKIENE ET AL., 1967).
HOWEVER, I ALSO CATALYZES THE OXIDN. OF ANTIOXIDANTS, SUCH AS LONOL OR
BIS(2, HYDROXY, 3, TERT, BUTYL, 5, METHYLPHENYL)METHANE. AN ATTEMPT TO BLOCK
THE CATALYTIC ACTIVITY OF I BY REPLACING SOME OF OH GROUPS ON ITS
SURFACE BY OSINE SUB3 GROUPS (BY 24 HR IMMERSION OF I IN 0.1 PERCENT ME
SUB3 SICL SOLN. IN BENZENE) WAS UNSUCCESSFUL. THE ANTIOXIDATIVE AND
CATALYTIC PROPERTIES OF I WERE RELATED TO ITS GRAPHITE TYPE STRUCTURE.
FACILITY: INST. KHIM. KHIM. TEKHNOL., VILNIUS, USSR.

UNCLASSIFIED

USSR

UDC 543.424.547.414.8

LEVIN, A. A., KHUTORETSKIY, V. M., OKHLOBSTINA, L. V., and SHLYAPOCHNIKOV, V. A., Institute of Organic Chemistry imeni N. D. Zelinskiy, Academy of Sciences USSR

"Raman Spectra of Polynitro- and α -Halogenopolynitroalkanes"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 11, Nov 71, pp 2575-2577

Abstract: The article gives the first results of a study of the intensities of a number of Raman spectral lines of polynitro- and α -halogenopolynitroalkanes and previously unpublished Raman spectra for $\text{IC}(\text{NO}_2)_3$, $\text{FC}(\text{NO}_2)_3$, $\text{CH}_3\text{CH}(\text{NO}_2)_2$, $\text{ClCH}(\text{NO}_2)_2$, $\text{FCH}(\text{NO}_2)_2$. Intensities were measured for lines of the symmetric stretching and deformation vibrations of C-NO_2 groups. Analysis of the results shows that in the considered series of compounds the line intensities vary within rather a wide range. It is suggested that interaction of the nitro groups with halogen atoms leads to significant changes in the electronic properties of α -halogenopolynitroalkane molecules. An increase in intensities is mainly due to a decrease in the electron-acceptor properties of the substituent and the degree of its polarizability.

1/1

- 63 -

1/2 020
TITLE—REACTION OF CARENE IN THE PRESENCE OF DIATOMITE —U—
AUTHOR—(03)—BARDYSHEV, I.I., BAZYLCHIK, V.V., SHLYASHINSKIY, R.G.
COUNTRY OF INFO—USSR
SOURCE—ZH. OBSHCH. KHIM. 1970, 40(3), 672-6
DATE PUBLISHED—70

SUBJECT AREAS—CHEMISTRY

TOPIC TAGS—MONOMER, POLYMER, TERPENE, AROMATIC HYDROCARBON, ISOMER

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED
PROXY REEL/FRACTION—2000/0928

STEP NO—UR/0079/70/040/003/0672/0676

CIRC ACCESSION NO—AP0124589

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124589

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PASSING 3,CARENE OVER DIATOMITE AT 250DEGREES WITH 4.5 SEC CONTACT TIME GAVE 86.7PERCENT MONOMERIC PRODUCTS AND 12.8PERCENT POLYMERS. THE FOLLOWING WERE IDENTIFIED CHROMATOGRAPHICALLY AND SPECTROSCOPICALLY: M,MENTH,1,ENE, P,MENTH,3,ENE, P,MENTH,1,ENE, DELTA PRIME4,CARENE, DELTA PRIME3,CARENE, 1,1,4,TRIMETHYLCYCLO,HEPTADIENE, CIS,ISOLIMONENE, L,P,MENTHA,2,4,DIENE, M,1,3,MENTHADIENE AND TERPINENE, GAMMA,TERPINENE, SYLVESTRENE, P,CYME, AND L,P,MENTHA,3,8,DIENE. THUS THE 3,CARENE UNDERGOES ISOMERIZATION INTO THE 4,ISOMER AND RUPTURE OF THE 3 MEMBERED RING IN ALL POSSIBLE DIRECTIONS. FACILITY: INST. FIZ. ORG. KHIM., MINSK, USSR.

USSR

UDC 621.357.7.035.2:669.587

TYRINA, L. M., SARKIS'YANTS, N. A., and SHLYGIN, A. I.

"The Rate of Electroprecipitation and Electrodeposition Reactions on a Zinc Electrode"

English Version Above. Topic Books from the Dal'nevost University, Vladivostok, 1972, pp 75-79 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No SL302 by V. V. Grinina)

Translation: As an example of the reaction of electroprecipitation and electrodissolution of zinc in $ZnSO_4$ solutions, a study was made of the velocity of the electrochemical reactions in the metal ion systems in solution. A study was carried out using methods of stationary and rapid method stripping polarization curves. It is probable that during an increase in the polarization during the processes of electrodeposition and electrodissolution of zinc a change in the limiting rate of the steps occurred.

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- 17 -

USSR

UDC 621.35.035.2.001.11

SHLYGIV, A. I.

"The Theoretical Bases for Electrode Processes"

Nekotor, probl. kinetiki elektrod. processes (Some Problems in the Kinetics of Electrode Processes), Topic Books From the Dal'nevost University, Vladivostok, 1972, pp 3-8 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8I211 by L. S. Kanevskiy)

Translation: Quantitative equations are presented describing the relationship between the basic values characterizing the nature and specifissity of electrode processes (current exchange, over voltage, work functions). The accuracy of these relationships is documented by an example of the hydrogen (iron - platinum) electrode for which sufficient experimental data are known. The problems in using the above equations for studying different oxidation reduction systems are also discussed.

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1/2 023 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--LEUKOPOIETINS IN ASEPTIC INFLAMMATION -U-
AUTHOR--(04)-KAKHETELIDZE, M.G., SHLYGIN, A.N., DOLGINA, Z.M., DUBROVSKAYA,
R.M.
COUNTRY OF INFO--USSR
SOURCE--PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTAL'NAYA TERAPIYA, 1970,
VOL 14, NR 2, PP 79-83
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BLOOD SERUM, DOG, HORSE, HYDROCARBON, PROCESSED PLANT PRODUCT,
LEUKOPOIESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1988/0022

STEP NO--UR/0396/70/014/002/0079/0083

CIRC ACCESSION NO--AP0105121

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105121

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CHANGES OF LEUKOPOIETIC ACTIVITY OF THE BLOOD SERUM OF DOGS AND HORSES WERE STUDIED IN ASEPTIC INFLAMMATION CAUSED BY TURPENTINE. BLOOD PROVED TO BECOME ENRICHED WITH LEUKOPOIETINS, WHICH IN INTACT ANIMALS STIMULATED DIFFERENTIATION OF STEM CELLS IN THE DIRECTION OF GRANULOCYTOPOIESIS, PROLIFERATIVE ACTIVITY OF GRANULOCYTES, THEIR MATURATION AND LIBERATION INTO THE PERIPHERAL BLOOD. ACCUMULATION OF LEUKOPOIETINS WAS PHASIC IN CHARACTER; THEIR MAXIMAL AMOUNT WAS REVEALED IN THE BLOOD 3 TO 7 DAYS AFTER ADMINISTRATION OF TURPENTINE. LEUKOPENINS DEPRESSING THE PROLIFERATIVE ACTIVITY OF GRANULOCYTES AND LIBERATION OF MATURE GRANULOCYTES FROM THE BONE MARROW INTO THE PERIPHERAL BLOOD WERE REVEALED IN SOME OF THE SERUM SAMPLES. FACILITY: PATOFIZIOLOGICHESKAYA LABORATORIYA TSENTRAL'NOGO INSTITUTA GEMATOLOGII I PERELIVANIYA KROVI MINISTERSTVA ZDRAVOOKHRANENIYA SSSR, MOSKVA. FACILITY: LABORATORIYA FIZIOLOGII VSESOYUZNOGO NAUCHNO ISSLEDOVATEL'SKOGO INSTITUTA KONEVODSTVA, MOSCOW.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EXTERNAL SECRETION OF THE LIVER IN DEFICIENCY OF POLYUNSATURATED
FATTY ACIDS -U-
AUTHOR-(02)-SHLYGIN, G.K., POMERANTSEVA, I.I.
COUNTRY OF INFO--USSR
SOURCE--PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTAL'NAYA TERAPIYA, 1970,
VOL 14, NR 2, PP 54-59
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LIVER FUNCTION, DIET, FAT, MALNUTRITION, LIPID, FATTY ACID,
PHOSPHOLIPID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/0027

STEP NO--UR/0396/70/014/002/0054/0059

CIRC ACCESSION NO--AP0105126

UNCLASSIFIED

PROCESSING DATE--23OCT70

UNCLASSIFIED

2/2 015
CIRC ACCESSION NO--AP0105126

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTS WERE PERFORMED ON RATS WHICH WERE GIVEN SYNTHETIC DIET DEVOID OF FAT FOR A NUMBER OF MONTHS. SURGICAL CANNULATION OF COMMON AND LOBAR BILE DUCTS WAS ACCOMPLISHED IN THESE ANIMALS IN HALF, ONE AND A HALF THREE, AND FIVE MONTHS. EVEN AT THE STAGE OF MARKED FAT DEFICIENCY THE SECRETION OF THE PRINCIPAL BILE COMPONENTS, LIPID COMPLEX, FATTY ACIDS, AND PHOSPHOLIPIDS PROVED TO BE ON A HIGH LEVEL. IN THIS PROCESS A VERY IMPORTANT ROLE IS PLAYED BY THE HEPATO INTESTINAL CIRCULATION OF SUBSTANCES: ITS DISTURBANCE UNDER THE MENTIONED CONDITIONS, LEADS TO DERANGEMENT OF THE EXTERNAL SECRETION OF THE LIVER. THE RESULTS OBTAINED ARE REGARDED AS A MANIFESTATION OF ACTIVE ADAPTATION OF THE LIVER MAINTAINING THE COURSE OF METABOLISM UNDER CONDITIONS OF INADEQUACY OF ESSENTIAL COMPOUNDS. FACILITY: LABORATORIYA FIZIOLOGII I PATOLOGII PISHCHEVARENIYA INSTITUTA PITANIYA AMH SSSR, MOSKVA.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--THE EFFECT OF CASEIN HYDROLYSATE INTRODUCED PARENTERALLY ON THE
EXCRETORY FUNCTION OF THE PANCREAS -U-
AUTHOR-(02)-SHLYGIN, G.K., VOROBYEVA, T.V.

COUNTRY OF INFO--USSR

SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69,
NR 4, PP 36-39
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PANCREAS, DOG, SECRETION, ENZYME, PROTEIN, FIBRIN, HYDROLYSIS,
PEPTIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1988/1593

STEP NO--UR/0219/70/059/004/0036/0039

CIRC ACCESSION NO--AP0106339

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--02OCT70

2/2 026

CIRC ACCESSION NO--AP0106339

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN EXPERIMENTS ON DOGS WITH A CHRONIC FISTULA OF THE PANCREATIC DUCT THE AUTHORS DEMONSTRATE THAT CASEIN HYDROLYSATE, OBTAINED BY ACID HYDROLYSIS, UPON ADMINISTRATION INTO THE BLOOD IS ENDOWED WITH A SHARPLY PRONOUNCED CAPACITY TO STIMULATE THE SECRETION OF THE PANCREATIC JUICE. THE SECRETED JUICE IS CHARACTERIZED BY A RELATIVELY LOW CONTENT OF ENZYMES AND TOTAL PROTEIN. A PREPARATION DERIVED BY MEANS OF ENZYMATIC HYDROLYSIS POSSESSES THIS CAPACITY TO A SIGNIFICANTLY LESSER DEGREE. FIBRIN HYDROLYSATE AND A NUMBER OF OTHER HYDROLYSATES OBTAINED FROM THE BLOOD DO NOT CAUSE AN INTENSIVE SECRETION OF THE PANCREATIC JUICE. AN OPINION IS SET FORTH THAT CASEIN HYDROLYSATE CONTAINS SOME FRAGMENTS OF ITS MOLECULE, WHICH IN THE ORGANISM ARE CONVERTED INTO PEPTIDE WITH SECRETIN LIKE ACTIVITY.

UNCLASSIFIED

USSR

UDC 621.373.531(088.8)

SHLYKOV, N. A., NEMIROVSKIY, B. V., KLYUKIN, L. P., TSELYKOVSKIY, O. P.

"A Pulse Generator"

USSR Author's Certificate No 258377, Filed 14 Mar 66, Published 24 Apr 70 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10G168 P)

Translation: The time-mark circuit in the proposed pulse generator is connected between the negative pole of the auxiliary power supply and the collector of an auxiliary transistor which is connected in turn to the base of the main transistor through a capacitor in the time-mark circuit and the feedback winding of the transformer; the base of the auxiliary transistor is connected to the collector of the main transistor through a feedback resistor; the emitters of the main and auxiliary transistors are connected to the negative and positive poles of the auxiliary and main power supply sources. The circuit may be used over a wide frequency range since provision is made for switching the capacitance of the time-mark capacitor and for continuous control of the time-mark resistor. N. S.

1/1

- 137 -

1/2 030 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--HEAT TRANSFER CRISIS DURING BOILING WITH SUBCOOLED WATER MOVING IN
PIPES AT HIGH SPEEDS AND AT LOW PRESSURE -U-
AUTHOR-(03)-SHLYKOV, YU.P., LEONGARDT, A.D., POTAPOV, A.P.
COUNTRY OF INFO--USSR
SOURCE--TEPLOENERGETIKA 1970, 17(3), 63-5
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--BOILING, HEAT TRANSFER RATE, STAINLESS STEEL TUBE, WATER, FLOW
VELOCITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1989/1054 STEP NO--UR/0096/70/017/003/0063/0065
CIRC ACCESSION NO--AP0107563
UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0107563

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CRIT. HEAT FLOW (Q SUBCR) EXPTS. WERE CONDUCTED IN 3.6-MM INSIDE DIAM., STAINLESS STEEL TUBES ON FLOWING (16-25 M-SEC) DEAERATED H-SUB2 O SUBCOOLED (DELTAT SUBSC) 15-85DEGREES BELOW THE SATN. TEMP.; THE PRESSURE OF Q SUBCR VARIED FROM 0.5 TO 3.0 KG-CM PRIME2. EXPTL. DETD. Q SUBCR IN W-M PRIME2 AGREED TO PLUS OR MINUS 20PERCENT WITH RESULTS CALCD. FROM THE A. P. ORNATSKII (1960) Q SUBCR EQUATION. AGREEMENT BETTER THAN PLUS OR MINUS 10PERCENT WAS OBSD. WITH LITERATURE DATA IN WHICH THE Q SUBCR APPROXIMATELY EQUAL TO F(DELTAT) AT THE LOW PRESSURES WAS SIMILAR TO 10 KG-CM PRIME2. THE Q SUBCR REMAINED UNAFFECTED AT DELTAT IS SMALLER THAN 30DEGREES. FACILITY: INST. TEOR. EKSP. FIZ., MOSCOW, USSR.

UNCLASSIFIED

USSR

SHLYKOV, Yu. P., KOBLYAKOV, A. N.

"Heat Transfer with Forced Turbulent Flow of a Fluid at Supercritical Parameters"

Teplo. i Massoperenos. T. 2, Ch. 1 [Heat and Mass Transfer, Vol 2, Part 1 -- Collection of Works], Minsk, 1972, pp 3-15, (Translated from Referativnyy Zhurnal, Mekhanika, No 10, 1972, Abstract No 10 B808, by V. D. Vilenskiy).

Translation: Results are presented from a theoretical study of heat transfer as a fluid with supercritical state parameters flows through a pipe. The integral expression for the Nusselt number in the area of heat exchange stabilized over the length is used in the calculations. The turbulent transfer factor is described by Reichardt dependences, into which the dimensionless distance from the wall is introduced as

$$y^{+} = V_c^* \frac{1}{\sqrt{\nu_c}} \int_0^y \frac{dy}{\sqrt{\nu}}$$

where y is the distance from the wall, ν , ν_c are the local value and value at the wall of kinematic viscosity factor, V_c^* is the dynamic velocity.
1/2

USSR

SHLYKOV, Yu. P., KOBLYAKOV, A. N., Teplo. i Massoperenos. T. 2, Ch. 1, Minsk, 1972, pp 3-15.

Calculations are performed for the flow of water in a pipe 10 mm in diameter with a pressure of 245 bar and various values of mass velocity. The results show that for certain modes, heat transfer worsens. An analysis of the results produced is presented. An empirical dependence is presented, summarizing the results of calculations and certain experimental data.

2/2

40

USSR

SHLYKOV, Yu. P.

"General Rule of Turbulent Friction for Channels with Noncircular Cross Section"

Teplo. i Massoperenos. T. 1. Ch. 3 [Heat and Mass Transfer, Vol 1, Part 3 -- Collection of Works], Minsk, 1972, pp 80-87, (Translated from Referativnyy Zhurnal, Mekhanika, No 10, 1972, Abstract No 10 B594 by A. D. Al'tshul').

Translation: The following formula is suggested for determination of the coefficient of hydraulic friction λ_p of channels with complex cross-sectional shape:

$$\frac{1}{\sqrt{\lambda_p}} = 2.1 \lg R \sqrt{\lambda_p} + 0.82 \lg (p - 0.85) - 0.1$$

where p is the form factor, determining the hydrodynamic characteristics of the section (see Shl'kov, I. P., Tsarevskiy-Dyakin, S. N., Teplo-energetika, 1966, No 12, RZhMekn, 1967, 7B646). A table of the values of form factor found experimentally for certain cross sections is presented.

7 Biblio. Refs.

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USSR

UDC 616.988.75:07:616.1-07

NEPYSHNEVSKAYA, V. V., and SHLYKOVA, S. L., Chair of Infectious Diseases, Voronezh Medical Institute, Voronezh, and 12th Infectious Disease Hospital, Voronezh

"Changes in the Cardiovascular System in Influenza"

Moscow, Sovetskaya Meditsina, No 2, Feb 71, pp 82-85

Abstract: Changes in the cardiovascular system were studied on 133 patients with influenza caused by the virus A₂ (Hong Kong) 68. The principal clinical manifestations of these changes were muteness of cardiac tones, a functional systolic noise above the heart tip, alteration of the frequency of cardiac contractions, and a drop in arterial pressure. The most pronounced changes in the EKG were disrupted rhythm, reduced voltage of the P, R, and T waves, displacement of the RS-T segment with reference to the isoelectric line, a lengthening of the electric systole, and an increase in the systolic index. At the height of the disease 90.2% of the patients exhibited arterial hypoxemia. The decrease in the degree of saturation of the blood with O₂ from the average level for healthy persons varied with the severity of the

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NEPYSHNEVSKAYA, V. V. and SHLYKOVA, S. I., Sovetskaya Meditsina, Vol 34, No 2, Feb 71, pp 82-85

disease. The majority of patients showed an increased permeability of capillaries and a decreased resistance of capillary walls. At the time of convalescence the cardiovascular functions had not yet returned to normal in most patients. The changes in these functions that were observed indicated diffuse dystrophic alterations in the myocardium and in a number of cases inflammatory alterations in the latter.

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1/2 021

UNCLASSIFIED

PROCESSING DATE--09OCT70

TITLE--STRENGTH OF THE FIELD OF RADIO WAVES IN THE RANGE 150-1,500 KC-SEC
PROPAGATING OVER GREAT DISTANCES FROM A TRANSMITTER, FIELD STRENGTH OF
AUTHOR--(03)--VILENSKIY, I.M., UDALTSOV, A.N., SHLYUGER, I.S.

COUNTRY OF INFO--USSR

SOURCE--GEOMAGNETIZM I AERONOMIYA, VOL X, NO 2, 1970, PP 262-267

DATE PUBLISHED-----70

SUBJECT AREAS--NAVIGATION, PHYSICS

TOPIC TAGS--RADIO WAVE PROPAGATION, IONOSPHERIC PROPAGATION, LONG RANGE
SIGNAL, RADIO COMMUNICATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1991/1440

STEP NO--UR/0203/70/010/002/0262/0267

CIRC ACCESSION NO--AP0110938

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0110938

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A PRECISE STUDY WAS MADE TO CONSTRUCT ACCURATE CURVES FOR PROPAGATION OF RADIO WAVES IN THE RANGE 150-1,500 KC-SEC TO CHECK ON THOSE RECOMMENDED BY THE INTERNATIONAL CONSULTATIVE COMMISSION ON RADIO COMMUNICATIONS FOR COMPUTING THE FIELD STRENGTH OF THE IONOSPHERIC WAVE IN THE EUROPEAN ZONE OF RADIO BROADCASTING. IT WAS FOUND THAT FOR PATHS UP TO 2,000 KM IN LENGTH THERE IS A GOOD CORRESPONDENCE TO THE MEASURED VALUES RECOMMENDED BY THE COMMISSION. FOR LONGER PATHS A CORRESPONDENCE IS OBSERVED ONLY AT LOW FREQUENCIES. FOR HIGHER FREQUENCIES THE MEASUREMENT RESULTS DEVIATE FROM THE PROPAGATION CURVE FOR THE CORRESPONDING FREQUENCY AND APPROACH THE LOW FREQUENCY CURVES. AN INCREASE IN ATTENUATION AT HIGH FREQUENCIES OVER THE TERRITORY OF THE USSR IS NOT CONFIRMED, AT LEAST FOR PATHS OF A LATITUDINAL DIRECTION. THE MAGNETIC INCLINATION CORRECTION CURVES AGREE WELL FOR PATHS UP TO 2,200 KM IN LENGTH. FOR LONGER PATHS IT IS PREFERABLE TO DETERMINE THE CORRECTION SEPARATELY FOR EACH HDP AND ADD THE RESULTS. THE DISTRIBUTION OF HOURLY MEDIANS IS CLOSE TO LOG NORMAL. DEVIATION OF THE QUASIMAXIMUM VALUE FROM THE ANNUAL MEDIAN IS PLUS 6 DB; DEVIATION OF THE QUASIMINIMUM VALUE IS 8 DB. THE SEASONAL VARIATION HAS TWO MAXIMA (MARCH AND OCTOBER) AND TWO MINIMA (SHALLOW IN JANUARY AND DEEPER IN MAY-JUNE). FACILITY: INSTITUTE OF GEOLOGY AND GEOPHYSICS, SIBERIAN DEPARTMENT ACADEMY OF SCIENCES USSR. FACILITY: NOVOSIBIRSK ELECTRICAL ENGINEERING COMMUNICATIONS INSTITUTE.

UNCLASSIFIED

USSR

UDC 621.762.001

BONDARENKO, V. P., CHERNYAK, L. V., and SHLYUKO, V. Ya.

"Alloying of Lanthanum Hexaboride With Hafnium"

Vestn. Kiyev. politekhn. in-ta. Ser. mashinostr. (Herald of Kiev Polytechnic Institute: Machine-Building Series), 1971, No 8, pp 178-180 (English summary) (from RZh-Metallurgiya, No 1, Jan 72, Abstract No 1G246 by authors)

Translation of Abstract: The authors studied the coreduction of La_2O_3 and HfO_2 by boron in vacuum. An alloy was obtained containing a solid solution of Hf in LaB_6 and HfB_2 and possessing elevated thermostability as compared with pure LaB_6 . One table. Bibliography with four titles.

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1/2 037 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--PROPERTIES OF CRYSTALLINE AMMONIUM NITRITE -U-

AUTHOR--(04)-SHIDLOVSKIY, A.A., POPOVICH, A.S., SHMAGIN, L.F., RUGOZHNIKOV,
V.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. LENINGRAD 1970, 43(2), 434-6

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PROPULSION AND FUELS, ORDNANCE

TOPIC TAGS--AMMONIUM NITRITE, COMBUSTION RATE, DETONATION, EXPLOSIVE
PROPERTY, THERMAL SHOCK

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1997/0724

STEP NO--UR/0080/70/043/002/0434/0436

CIRC ACCESSION NO--AP0119631

UNCLASSIFIED

2/2 037

UNCLASSIFIED

PROCESSING DATE--23OCT7C

CIRC ACCESSION NO--AP0119631
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. D., LOSS OF WT. ON STORAGE, FLASH POINT, SENSITIVITY TO SHOCK AND FRICTION, RATE AND CRIT. DIAM. OF COMBUSTION AT ATM. PRESSURE, AND EFFECT ON COMBUSTION RATE OF NH SUB4 NC SUB2 AFTER ADDN. OF VARIOUS SUBSTANCES WERE STUDIED ALONG WITH EXPLOSIVE PROPERTIES, SUCH AS THE RATE OF CRIT. DIAM. OF DETONATION. CRYST. NH SUB4 NO SUB2 IS AN EXPLOSIVE SUBSTANCE OF AV. FORCE (ON THE ORDER OF TETRYL), BUT ITS PRACTICAL USE IS HARDLY POSSIBLE DUE TO ITS POOR CHEM. STABILITY AND ITS HIGH SENSITIVITY TO MEHC. AND THERMAL SHOCK.
FACILITY: MOSK. INST. KHIM. MASHINOSTR., MOSCOW, USSR.

UNCLASSIFIED

AAC043508

~~SHMAGIN, V.P.~~

SHMAGIN V.P.

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent,

226155 STEREO-REGULAR POLYMERS are prepared by the polymerisation of di-olefins using a bi-functional polymeric radical catalyst having organo-metalgroups at both ends, the metal combinations being gp. I and II, or I and III, or II, or III. The previous method utilised as catalyst transition metals and alkyls and alkyl-halides of aluminium which were very unstable in the atmosphere. In an example, 370 ml hexane, 95 ml iso-prene, 0.75 g complex bi-functional organo-metal (NaAlR_2), (C_2H_5), and 0.6 ml TiCl_4 are polymerised for 38 hrs. in an autoclave at 200°C . The polymer is precipitated with ethanol to give 67% yield (mol. wt 320,000) of which 90% is cis-1,4-polymer. 2.11.64. as 927914/23-5, PETROV, G. N. et al. S.V. Lebedev Synthetic Rubber Res. Inst. (22.8.69) Bul. 28/5.9.68. Class 39c, Int. Cl. C 08d.

19761906

AA0043508

Petrov, G. N.; Lisochkin, G. F.; Shmagin, V. P.; Shibanova, O. M.

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imeni Akad. S. V. Lebedeva.

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19761907

USSR

UDC 681.142.624:506.2

BOYKO, B. N., SHMAKOV, A. K.

"Instrument for Automatic Computation of the Distribution Density Function of Microscopic Objects in Terms of Their Diameter"

Patent No. 327470 (1334551/26-25 from 3 June 1969), Class G06F 5/00 announced by the Special Design Bureau of Biological Instrument Building (from Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No. 5, 1972, p 138)

Abstract: A device for the automatic calculation of the distribution density function of microscopic objects in terms of their diameter which contains a scanning microscope, a delay line, and a scheme for determining the end of the microscopic object is described. The device is distinguished by the fact that it includes a multichannel counter to increase the accuracy of the calculations and give greater clarity to the results and also includes a second delay line and a circuit for the comparison of the durations of the video pulses, where two inputs of the multichannel counter are connected respectively with the output of the first delay line and the output of the comparison circuit, which is connected with the inputs and the output of the second delay line; and to the input and the output of the first delay line there is connected a circuit for the comparison of the durations of the video pulses, the output of which is connected with the control circuit.

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Composite Materials

USSR

UDC 669.71.782.3

KOVAL', A. D., NATAPOV, YE. B., LEZHENKO, G. G., SEYN. V. I., SHEGAY, A. A.,
and SHMAKOV, A. M., Zaporozh'ye Machine Building Institute, Department of
Physical Metallurgy

"Molybdenum and Tungsten Fibers as a Strengtheners of a Heat-Resistant Composite"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy--Chernaya Metallurgiya,
No 4, 1973, pp 153-155

Abstract: This work was conducted to study certain mechanical properties of wire, made at the Uzbek Refractory and Heat-Resistant Materials Combine (URHRMC), and the American alloy TZM, and to explain the possibilities of realizing the strength of molybdenum wire in a composite. Materials for this study were molybdenum and tungsten wires grades MCh and MK, made at URHRMC, experimental wire ChZM, and tungsten wire grade VA. A matrix of alloy EI435 was used with filler wire 0.5 mm in diameter. Volume content of wire in the alloy was 24%. Results of determining tensile strength showed that wire MCh had the lowest mechanical properties at 800-1200°C. Experimental alloy ChZM surpasses the short-time strength of molybdenum alloys TZM, MCh, MK and ChZM (not heat treated) after heat treatment. Tensile strength of EI435+30% MCh at 1100°C in the initial state and after annealing for 500 hours was 11-14 kg/mm². The

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KOVAL', A. D., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy--Chernaya Metallurgiya, No 4, 1973, pp 153-155

following table shows the tensile strengths and short-time strengths of EI435 with different combinations of wire filler:

	TS(1100°C)	STS(1200°C)
EI435+30% MCh	13.6 kg/mm ²	---
EI435+24% VA	19	16.4 kg/mm ²
EI435+24% ChZM	22.2	17

Thus, the composite EI435+24% ChZM has the best properties above 1100°C and shows the best prospects as a filler wire reinforcing material. 2 figures, 1 table, 3 bibliographic references.

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- 4 -

SHMAKOV, A. V.

SO: IPRS 53272
2 JUNE 91

UNC: 616.89-008.48

THE PROBLEM OF PATHOLOGY REFERABLE TO WILL IN THE LIGHT OF THE THEORY OF REFLECTION (Medicine?)

[Article by A.V. Shmakov (Moscow); Moscow, Voenitsk Akademii Meditsinskikh Nauk SSSR, Kuznetsov, No 2, April 1971, pp 19-22]

The theory of reflection described in the book by V.I. Lenin, Materialism and Empirio-criticism, and in the Philosophical Notebooks, was further developed in Marxist philosophy (I. Pavlov), psychology (S.A. Rubinshteyn), neuropsychology (P.K. Anokhin) and other branches of science. Modern science dealing with higher mental processes and, in particular, will, is based on the materialistic teaching of I.M. Sechenov and I.P. Pavlov, which views the human psyche as a determined and complex system of conditioned reflex activity. The development of neuropsychology (P.K. Anokhin and others) and of neuropsychology (A.R. Lurija and others) in the last decade has expanded and deepened our knowledge about the reflective activity of the human brain under normal conditions and in the presence of some neuropsychic diseases.

At the same time, investigations were begun from the positions of the reflection theory of emotion and feelings (B.K. Platonov; G.Kh. Shingarov), will (B.K. Platonov; A.V. Shmakov), as well as of the mechanisms of formation of delirium (O.V. Kersikov; B.A. Lebedev, and others). It is interesting for us to consider the problem of will in the light of the theory of reflection as applied to problems in medicine and, in particular, psychiatry. We believe it is possible, in investigating will as a form of reflection, to proceed from some of the positions in P.K. Anokhin's conception with regard to anticipated reflection and the integrative concept of a dynamic functional system as the central-peripheral material structure.

As we know, in the course of evolution anticipatory reflection has travelled a long road and at the highest step of its development it was transformed into the capacity of the human brain to consciously and purposefully reflect the objects and phenomena in the world.

Man, who is in a sociobiological environment and interacts with it by means of receptors (auditory, visual, and others), constantly experiences some need (material and spiritual needs). Needs, which are stimuli and